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ABSTRACT

This report examined Advanced Placement (AP) test results for the Wake County Public School System (WCPSS) and a group of comparable districts that participate in the Educational Benchmarking Network (EBN). Students in WCPSS showed higher performance on AP examinations than students in North Carolina, the South, and all test-takers worldwide. Since 1996-1997, the number of examinations given to WCPSS students has increased 27%, from 2,785 to 3,806. Over the same time period, performance has decreased 2.3%, from an average score of 3.42 to 3.38. In 1999-2000, 150 more females than males took AP examinations, but the performance of males was higher. Both gender gaps narrowed slightly in the past 2 years. Black students were under-represented by 20% in taking AP examinations. Black students represent 24% of all WCPSS juniors and seniors, but only 4% took an AP examination. On each AP examination, several reporting EBN districts scored higher than scores for all U.S. public schools. All EBN districts performed higher for the English Language and Composition Examination than for other AP examinations. WCPSS showed strong performance relative to other EBN systems. (Contains 30 figures and 5 references.) (SLD)

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ADVANCED PLACEMENT EXAMS 1999-2000: RESULTS FOR WCPSS and EBN DISTRICTS

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WAKE COUNTY PUBLIC SCHOOL SYSTEM

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ADVANCED PLACEMENT EXAMS 1999-2000: RESULTS FOR WCPSS AND EBN DISTRICTS

REPORT SUMMARY

This report examines Advanced Placement (AP) test results for the Wake County Public School System (WCPSS) and a group of comparable districts who participate in the Educational Benchmarking Network (EBN). The AP program offers college-level courses to high school students. Approximately 60 % of United States high schools offer AP course work, and more than 750 thousand students participated in AP programs during the 1999-2000 school year (College Board, 2000). Many colleges and universities provide course credit to students who earn a high score on the end-of-year exams.

LOCAL RESULTS AND TRENDS: WCPSS

- Students in WCPSS showed higher performance on AP exams than students in North Carolina, the South, and all test-takers worldwide.
- Since 1996-97, the number of exams given to WCPSS students has increased 27%, from 2,785 to 3,806. Over the same time period, performance has decreased 2.3%, from an average score of 3.42 to 3.38.
- In 1999-00, 150 more females than males took AP exams. The performance of males (3.49) was higher than females (3.28). Both gender gaps narrowed slightly in the past two years.
- Black students were under-represented by 20% in taking AP exams. Black students represented 24% of all WCPSS juniors and seniors, yet only 4% took an AP exam.

NATIONAL COMPARISONS: EBN

- On each AP exam, several reporting EBN districts scored higher than scores for all US Public Schools.
- All EBN districts performed higher for the English Language and Composition exam than for other AP exams.
- WCPSS showed strong performance relative to the other EBN systems represented.

INTRODUCTION

Section I of this report describes AP participation and performance for each WCPSS high school and examines test results by race and gender. Section I also shows WCPSS results over the four-year period from 1996-97 to 1999-00. A previous report (E&R Report No.00.21) provided a brief description of all AP courses offered in WCPSS.

Section II compares WCPSS to similar districts. Similar districts were identified through the Educational Benchmarking Network (EBN), a collaborative of public school systems serving communities across the nation. Section II shows how the AP scores of WCPSS compared to selected EBN districts.

Taking the AP exam requires a fee that averaged $77 per exam in 2000. North Carolina's Department of Public Instruction covers testing fees for students of low-income families. Examinations are scored on a five-point scale. The scale can be interpreted as follows: 1—no recommendation, 2—possibly qualified, 3—qualified, 4—well qualified, and 5—extremely well qualified. Many colleges and universities provide course credit to students scoring a 3 or higher.

Section I: WCPSS Results and Trends

OVERALL AP RESULTS FOR 1998-99

In 1999-00, 18.9% of enrolled WCPSS juniors and seniors took one or more Advanced Placement (AP) exams. As shown in Figure 1, exam scores in the 1999-00 were similar to the previous year. There was little change in the mean score (3.38) and the percent of tests scored 3 or higher (78.1%). Like the previous year, WCPSS performed higher than North Carolina, the South, and global scores. The global category consists of all AP test-takers worldwide.

Figure 1
Overall AP Results for
WCPSS, NC, Southern Region, and Globally (1998-00)

AP Result	Year	WCPSS	NC	South	Global
Average Exam Scores	98-99	3.41	2.81	2.87	3.02
	99-00	3.38	2.83	2.88	3.02
Percent Scores 3 or Higher	98-99	77.8%	56.6%	58.5%	63.8%
	99-00	78.1%	57.8%	59.2%	64.0%

WCPSS FOUR-YEAR EXAM SCORE TRENDS

Participation in AP testing has increased over the four-year period from 1996 to 2000. The number of exams given to WCPSS students increased 13% from 1996-97 to 1997-98, 8% from 1997-98 to 1998-99, and 9% from 1998-99 to 1999-00. Combined, the number of AP exams given over the four-year period from 1996-97 to 1999-00 represents a 27% increase. However, the percent of students achieving a score of 3 or higher for all exams combined decreased slightly (2.3%) over the four-year period. This decrease in performance may occur due to more students taking the exams or for other reasons.

Figure 2
WCPSS Participation and Performance on
AP Exams over a Four-Year Period

Overall for WCPSS	1996-97	1997-98	1998-99	1999-00
Number of Exams Given	2,785	3,197	3,471	3,806
Average Exam Score	3.42	3.44	3.40	3.38
Percent Score 3 or Higher	80.4%	79.9%	77.8%	78.1%

At the school level (see Figure 3), large changes in participation rates from 98-99 to 99-00 led to corresponding changes in performance at some schools. Athens High School had largest increase in participation (+6.4%) and the largest decrease in performance (-16.1%). Conversely, Wake Forest/Rolesville had the largest decrease in participation (-7.6%) and the largest increase in performance (+14.9%). However, this negative relationship between participation and performance was not evident at the other high schools. Smaller changes in participation rates from 98-99 to 99-00 did not affect performance in a consistent manner.

Figure 3 shows each school's AP participation and performance over a four-year period. The figure shows the percent of students taking exams and the percent of tests with a score of 3 or higher for all 13 high schools for the four-year period 1996-97, 1997-98, 1998-99, and 1999-00.

Figure 3
Advanced Placement Overall Results for WCPSS High Schools for 1996-97, 1997-98, 1998-99, and 1999-00

High School	Participation Percent of Juniors and Seniors Taking AP Exams				Performance Percent of Exams with a Score of 3 or Higher			
	96-97	97-98	98-99	99-00	96-97	97-98	98-99	99-00
Apex	11.8	14.1	14.3	16.9	90.1	86.2	90.0	89.9
Athens Drive	15.0	14.5	12.5	18.9	76.0	74.9	80.9	64.8
Broughton	23.0	25.2	22.1	24.1	82.7	83.5	75.9	74.0
Cary	10.7	15.4	16.4	17.7	81.5	80.8	76.3	78.3
East Wake	10.1	9.2	12.2	15.6	56.8	62.4	52.9	63.3
Enloe	35.0	40.2	40.8	41.1	83.1	81.1	81.5	82.7
Fuquay-Varina	11.0	10.1	8.9	8.9	77.5	60.0	57.6	56.8
Garner	11.6	9.8	9.6	8.9	62.2	63.6	68.2	68.0
Leesville	18.0	15.0	13.1	18.6	88.7	95.7	94.2	91.3
Millbrook	12.8	15.3	19.9	21.3	83.2	77.9	80.4	75.2
Sanderson	14.0	14.0	15.9	17.5	83.0	79.6	79.8	75.8
Southeast Raleigh	N/A	4.2	14.6	15.4	N/A	71.4	67.3	75.4
Wake Forest/ Rolesville	13.3	14.7	19.2	11.6	76.3	80.3	53.9	68.8

N/A: Not applicable

Figure 4 shows participation and performance in five AP courses offered at every high school in WCPSS in 1998-00. The highest percentage of students earned a score of 3 or higher in Calculus AB (86.6%). The lowest percentage earned a score of 3 or higher in U.S. History (67.5%). For all exams, WCPSS scores exceeded the global average.

Figure 4
WCPSS Participation and Performance in Common Courses (1998-00)

AP COURSE	YEAR	Number of AP Exams	Average Exam Score	Percent Score ≥3	Global Average
Biology	98-99	211	3.26	75.4%	3.14
	99-00	248	3.15	72.6%	3.08
Calculus AB	98-99	354	3.78	84.5%	3.01
	99-00	374	3.84	86.6%	3.03
English Lang. & Comp.	98-99	558	3.27	78.3%	2.94
	99-00	651	3.26	80.6%	2.94
English Lit. & Comp.	98-99	355	3.34	78.3%	3.07
	99-00	364	3.27	77.5%	3.06
U.S. History	98-99	523	3.18	66.5%	2.76
	99-00	644	3.10	67.5%	2.81

Figure 5 shows results for the five common exams by school. Participation (% of juniors and seniors taking the exam) and performance (% of exams receiving a score of 3 or higher) are shown for each high school. Performance figures are not shown when less than seven students took a test.

Figure 5
Participation and Performance by WCPSS High School:
Results for Common Advanced Placement Courses (1999-00)

High School	AP Course									
	Biology		Calculus AB		English Lang. & Comp.		English Liter. & Comp.		US History	
	Partici-pation % of Jrs/Srs Taking Exam	Perfor-mance % of Exams Scored ≥3	Partici-pation % of Jrs/Srs Taking Exam	Perfor-mance % of Exams Scored ≥3	Partici-pation % of Jrs/Srs Taking Exam	Perfor-mance % of Exams Scored ≥3	Partici-pation % of Jrs/Srs Taking Exam	Perfor-mance % of Exams Scored ≥3	Partici-pation % of Jrs/Srs Taking Exam	Perfor-mance % of Exams Scored ≥3
Apex	1.7	88.2	2.7	100.0	5.2	84.9	1.8	83.3	3.5	75.0
Athens Drive	7.2	58.5	3.2	100.0	2.4	72.2	4.0	76.7	3.1	17.4
Broughton	2.1	80.0	4.9	50.0	9.4	78.8	3.0	76.2	10.1	63.4
Cary	2.7	76.9	3.2	100.0	2.8	85.2	1.6	86.7	9.8	66.7
East Wake	2.5	66.7	4.0	87.5	2.8	58.8	8.0	52.1	4.5	59.3
Enloe	3.1	67.7	8.4	82.4	22.9	84.9	11.7	82.4	16.0	77.2
Fuquay-Varina	0.3	--	0.2	100.0	1.2	71.4	1.2	85.7	3.3	40.0
Garner	1.6	83.3	2.1	81.3	3.5	59.3	2.8	81.8	3.4	34.6
Leesville	1.3	83.3	4.6	100.0	7.1	83.1	2.4	95.5	4.4	97.5
Millbrook	1.2	100.0	3.8	93.1	2.9	81.8	3.4	80.8	5.4	61.0
Sanderson	4.3	76.7	5.5	97.4	1.3	66.7	2.4	82.4	3.4	50.0
Southeast Raleigh	2.5	94.7	2.7	65.0	9.9	82.7	1.5	63.6	6.6	72.0
Wake Forest/ Rolesville	1.1	14.3	0.5	--	5.0	72.7	1.2	62.5	4.7	87.1
WCPSS AVERAGE	**2.4**	**72.6**	**3.7**	**86.6**	**6.4**	**80.6**	**3.6**	**77.5**	**6.3**	**67.5**

Note: The range in the number of test-takers for each exam follows: Biology (2-53), Calculus (1-85), Language (7-232), Literature (7-119), History (20-162).

--- indicates when the % was not reported due to the small number (<7) of test-takers

Figure 6 shows the percent of juniors and seniors at each WCPSS high school that took AP exams in 1999-00. Figure 6 also shows the percent in each school that scored 3 or higher for all exams combined.

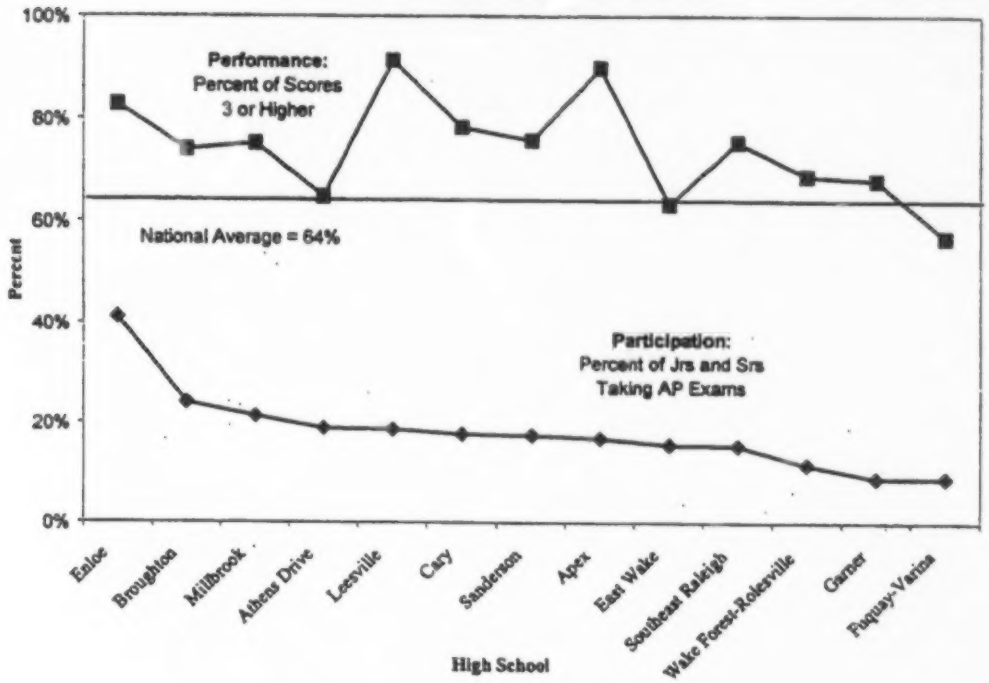
- There was a large variation in the percentage of juniors and seniors who took at least one AP exam each year, from 9% at Fuquay-Varina and Garner High Schools to 41% at Enloe High School. Enloe's high participation rate is likely related to the school's status as a magnet high school designated for academically gifted students. Beyond Enloe, participation ranged from 9 to 24%, varying less than performance.
- The percent of scores of 3 or higher varied greatly from school to school, from 57% at Fuquay-Varina to 91% at Leesville. Most far exceeded the global average of 63.8%.

Figure 6
Percent of Juniors and Seniors Taking AP Exams
and Percent of Scores 3 or Higher for Each WCPSS High School in 1999-00

High School	Participation		Performance
	# of Jrs & Srs Taking AP Exams	% Jrs & Srs Taking AP Exams	% of Exams Scored 3 or Higher
Apex	174	16.9%	89.9%
Athens Drive	140	18.9%	64.8%
Broughton	169	24.1%	74.0%
Cary	168	17.7%	78.3%
East Wake	94	15.6%	63.3%
Enloe	417	41.1%	82.7%
Fuquay-Varina	54	8.9%	56.8%
Garner	69	8.9%	68.0%
Leesville	169	18.6%	91.3%
Millbrook	161	21.3%	75.2%
Sanderson	122	17.5%	75.8%
Southeast Raleigh	116	15.4%	75.4%
Wake Forest-Rolesville	7676	11.6%	68.8%
Total for Wake County Public School System	**1929**	**18.9%**	**78.1%**

Figure 7 displays AP performance and participation for each WCPSS high school.

Figure 7
Participation and Performance on AP Exams:
WCPSS High Schools 1999-00



AP EXAMS BY GENDER

Figure 8 shows the participation and performance by gender for the five AP courses offered in every WCPSS high school in 1999-2000. The global category in the far-right column shows the percentage of all AP candidates worldwide who scored 3 or more. Compared to the global scores, a higher percentage of WCPSS students scored 3 or more for all exams. In terms of gender differences, Figure 8 shows the following patterns:

Participation

- As in previous years, more females than males took AP Tests in 1999-2000. This gender difference narrowed by 229 students, from 379 more females in 1998-99 to 150 more females in 1999-2000. Of the five exams shown in Figure 8, females took more exams for all subjects except Calculus AB.
- WCPSS gender differences in participation followed global trends. According to recent figures from the Educational Testing Service, the percentage of female test-takers increased from 52% in 1989 to 56% in 1999 (Coley, 2001). Across all racial groups worldwide, more females than males participated in AP exams from 1990-1999.

Performance

- The average WCPSS score across all exams was slightly higher for males (3.49) than for females (3.28). However, this gender difference narrowed .07 points (on the 5-point scale) since 1998-99.
- 81% of males and 76% of females scored 3 or more. This gender difference in passing exams narrowed two percentage points since 1998-99.
- Like the 1998-99 results, males scored higher on Biology, Calculus AB, English Language and Composition, and U.S. History, while females scored higher on English Literature and Composition.
- Globally, ETS reported that from 1990-1999, males were more likely to score 3 or more on the Biology and Calculus AB exams. However, there was no pattern of gender differences between males and females for the English Literature and Composition exam.

Figure 8
AP Results by Gender for the Five AP Courses Offered in Every WCPSS High School (1999-2000)

AP Course	Males			Females			Global
	# of AP Exams	Average Score	% of Scores ≥ 3	# of AP Exams	Average Score	% of Scores ≥ 3	% of Scores ≥ 3
Biology	99	3.19	77.8%	149	3.00	69.1%	64.5%
Calculus AB	199	3.99	88.9%	175	3.66	84.0%	N/A*
English Language & Composition	264	3.33	84.1%	387	3.21	78.3%	62.9%
English Literature & Composition	141	3.26	77.3%	223	3.28	77.6%	68.8%
U.S. History	311	3.19	72.0%	333	3.02	63.4%	53.8%

* Not shown because global Calculus AB scores were reported only for those students who also took Calculus BC

AP EXAMS BY RACE

Figure 9 shows participation rates and exam performance by race. To assess AP participation by race, the racial groups for students who took the AP exam (self-report AP data) were compared to the population of racial groups at high schools in fall 1999 (WCPSS data).

As shown in
Figure 9, all racial groups were over-represented except Blacks and Hispanics. Black students were under-represented the most: the number of Black students taking the AP exam was 20% lower than the number of Blacks in WCPSS high schools (a six-fold difference). Hispanics were underrepresented by only .3%. A similar pattern of under-representation for Blacks and Hispanics taking the AP exam was evident the previous year. Compared to 1998-99, the 1999-2000 data show a .3% improvement in the representation of Blacks and a .5% improvement in the representation of Hispanics.

Performance on the AP exam also differed by race:

-
- Figure 9 shows that the 61 students who marked "Other" for race had the highest percentage of exams with scores of 3 or more (87%).
- The next highest percentages of groups scoring 3 or more were Asians (80%), Whites (78%), Hispanics (75%), Native Americans (73%), and Blacks (61%).
- The 1999-2000 passing rate for Blacks (60.8%) was close to the global average of 63.8% and 4.5% higher than the previous year (56.3%).

Figure 9
WCPSS High School Enrollment and AP Results by Race (1999-2000)

Race	H.S. Population in WCPSS (Fall 1999)		Participation H.S. Students Taking AP Exams		Exams Given	Performance AP Exams with Scores ≥ 3	
	# of H.S. Students	% of H.S. Students	# Taking Exam	% Taking Exam	# of Exams	# Scoring ≥ 3	% Scoring ≥ 3
Not Stated	N/A	N/A	22	1.1%	42	28	66.7%
Native American	56	.2%	13	.6%	22	16	72.7%
Black	5,925	24.0%	80	4.0%	130	79	60.8%
Hispanic	602	2.4%	42	2.1%	80	61	75.0%
Asian	973	3.9%	206	10.3%	477	380	79.7%
White	16,932	68.6%	1,580	78.8%	2,932	2,301	78.5%
Other	195	.8%	61	3.0%	123	107	87.0%
Total:	24,683	100%	2,004	100%	3,806	2,972	78.1%

Figure 10 shows performance on four commonly taken AP exams by race for WCPSS and students worldwide. The figure shows both mean scores and the percent scoring 3 or above. Asterisks indicate when the number of WCPSS students in that racial category taking the test was less than 12. The global indicators are 1996 results taken from College Board Report No. 99-5 (Camara and Schmidt, 1999). Global indicators were not available for three categories: Not Stated, Native Americans, and Other. As shown in
Figure 10, WCPSS outperformed global indicators for all exams and all racial categories.

Figure 10
AP Results by Race:
WCPSS Compared to Global Results for Four AP Courses

Race	Type of Score	AP Course Examination							
		U.S. History		Biology		English Lit.		Calculus AB	
		WCPSS	Global	WCPSS	Global	WCPSS	Global	WCPSS	Global
Black	% 3+	63.3%	31.5%	75%*	35.2%	50%*	33.5%	72.7%*	31.8%
	Mean	2.92	2.19	3.13*	2.19	2.60*	2.21	3.45*	1.96
Asian	% 3+	67.7%	59.6%	75%	69.7%	82.3%	67.0%	90.2%	64.0%
	Mean	3.21	3.00	3.11	3.30	3.18	3.03	3.92	3.00
Hispanic*	% 3+	66.7%*	37.1%	100%*	44.6%	71.4%*	47.5%	75.0%*	43.8%
	Mean	2.93*	2.34	3.60*	2.50	3.28*	2.55	3.50*	2.37
White	% 3+	66.9%	64.3%	70.7%	64.5%	78.0%	70.0%	87.1%	63.1%
	Mean	3.07	3.00	3.12	3.09	3.30	3.05	3.85	2.91

* N<12

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ISSUES TO CONSIDER

Participation Rates

The rate of participation in AP courses and testing varies widely across WCPSS. While the thirteen high schools serve somewhat different student populations, some of the variation in AP participation may be due to the degree to which students are encouraged to participate in AP courses and exams.

Most WCPSS high schools score over the global average and could encourage a higher percentage of participation in AP testing. While some students struggle in AP courses, other students who could succeed may not be participating.

Future research could examine the discrepancy between WCPSS students who take AP courses but do not take the AP exams for college credit. Of all students who take AP courses globally, only about a third actually take the end-of-year exams (Viadero, D., 1991 Education Week). Research could explore how many qualified WCPSS students do not take the AP exams and why they do not participate.

Potential AP Candidates

Schools could identify potential AP candidates by using PSAT scores. The attached article by the College Board (RN-02, 1997) shows that students with high or even moderate PSAT scores have a high probability of success on AP exams. The article provides tables that school officials can use to identify students likely to succeed. The article also shows how to consider the value of offering additional AP courses by gauging the potential number of successful AP exams.

Teacher Networking

Interviews with AP coordinators indicated that across high schools, AP instructors have few opportunities to discuss ideas with other AP instructors. Annual or semi-annual meetings among AP teachers and coordinators might facilitate the sharing of ideas and best-practices in teaching AP courses.

SECTION II: A Comparison of Advanced Placement (AP) Scores of Selected Educational Benchmarking Districts

The Educational Benchmarking Network (EBN) is a collaborative of public school systems serving communities across the nation. The benchmark project evolved as a response to challenges facing large school districts. Public perceptions of large school systems are negatively affected by publicity about a few large and troubled school districts. Many large districts are successfully educating diverse student populations in safe and effective schools. Finances are usually well-managed and most students are being prepared for the workplace and for higher education.

The mission of EBN is to facilitate communication and to encourage improvement of the cooperating school districts by collecting and disseminating information related to key results, shared needs, and best practices. The network supports a process for collecting, managing, updating, and disseminating information about key school measures and performance indicators. Information is shared through the online database and the EBN listserve.

This report summarizes Advanced Placement (AP) data from selected EBN districts. These districts are:

Duval County Public Schools (Florida)
Fairfax County Public Schools (Virginia)
Fulton County Public Schools (Georgia)
Gwinnett County Public Schools (Georgia)
Orange County Public Schools (Florida)
Virginia Beach City Public Schools (Virginia)
Wake County Public Schools (North Carolina)

PROCEDURES

Data collection consisted of data from the online database and from emails to member districts. The EBN database was downloaded on Jan. 4, 2001. The AP data represents information from the following school years: 1997-98, 1998-99, and 1999-00.

Three questions were considered for this report:

1. Who pays for AP exams in each school district?
2. What percentage of students taking AP exams received scores of 3 or higher?
3. Did EBN districts have a higher percentage of students with scores of 3 and above than the nation?

THE AP PROGRAM

The College Board sponsors the AP program. According to the College Board, approximately 60% of United States high schools offer some college level AP course work. More than 750 thousand students participated in the AP program during the 1999-2000 school year (College Board, 2000). Participating colleges may grant credit to students who have done well on the AP examinations.

PAYMENT FOR ADVANCED PLACEMENT EXAMS

In four of seven of the EBN districts, the student is required to pay the AP exam fee. Two of the districts provide full payment for AP exams (Duval and Fulton). Orange provides some payment assistance. Virginia Beach provides assistance on a needs-basis.

Figure 11
Payment for AP Exams

District	Student pays	District pays	Comments
Duval County Public Schools (FL)		✓	Full payment
Fairfax County Public Schools (VA)	✓		
Fulton County Public Schools (GA)		✓	Full payment
Gwinnett County Public Schools (GA)	✓		
Orange County Public Schools (FL)		✓	Amount may vary. Usually pays $63
Virginia Beach City Public Schools (VA)	✓	Needs based	
Wake County Public Schools (NC)	✓		NC pays needs based

AP TESTING PARTICIPATION RATES

Participation in the AP program varies by school district. When comparing the percentage of students with scores of 3 or higher, it is also important to consider the extent of AP participation in a district. EBN data was not available for the percent of students taking AP exams, so the testing rate was used instead. The testing rate is the total number of AP exams taken during the school year divided by the eleventh and twelfth-grade enrollment. This testing rate is higher than the participation rate because some AP students took more than one exam. Testing rates ranged from .29 in Gwinnett to .58 in Fairfax. In other words, a maximum of 29 percent of the eleventh and twelfth-grade students in Gwinnett took AP exams.

Figure 12
AP Testing Rate for Selected Districts for the 1999-2000 School Year[9]

EBN District	Total Number of Exams	End-of-Year 11th and 12th Grade Population	Testing Rate
Fairfax	11,904	20,477	.58
Fulton	2507	7504	.33
Gwinnett	3288	11,321	.29
Virginia Beach	3824	9152	.42
Wake	3803	10,199	.37

PERCENT OF STUDENTS SCORING 3 OR ABOVE ON SELECTED AP EXAMS:

The EBN districts report the number of students who take AP exams and the number of students who scored 3 or higher. A "3" is the lowest score that the AP program considers "qualified." Although colleges may vary, a "3" is usually the minimum score to receive college credit. also.

AP UNITED STATES HISTORY

During the 1997-98 school year, the percent of students scoring 3 or higher ranged from 35.2% (Duval) to 77% (Fulton). During the 1998-99 school year, the percent scoring 3 or higher ranged from 24.2% (Gwinnett) to 68.2% (Wake).

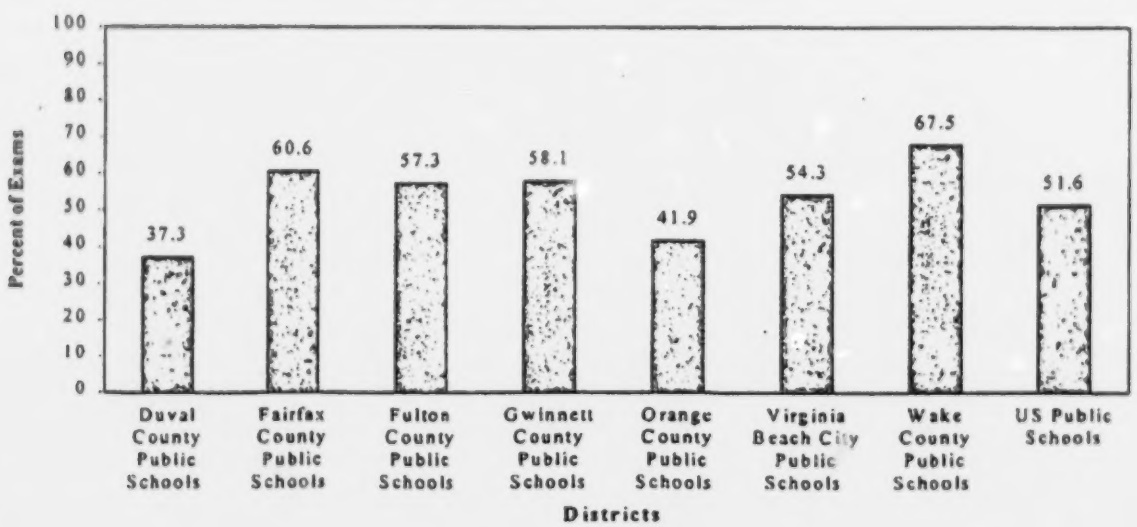
[9] Data was not available for Duval Public Schools (FL) and Orange Public Schools (FL).

Figure 13
AP United States History (Percent)

Year	1997-1998		1998-1999		1999-2000	
AP United States History District	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above
Duval County Public Schools	872	35.2	923	39.4	1001	37.3
Fairfax County Public Schools	1814	66.9	2477	56.7	2530	60.6
Fulton County Public Schools	313	77.0	391	66.2	524	57.3
Gwinnett County Public Schools	262	58.0	426	24.2	298	58.1
Orange County Public Schools	279	57.3	335	41.2	277	41.9
Virginia Beach City Public Schools	325	64.6	259	64.1	352	54.3
Wake County Public Schools	479	68.5	510	68.2	644	67.5

For the 1999-2000 school year, the percent of students scoring 3 or higher ranged from 37.3% (Duval) to 67.5% (Wake). Approximately 51.6% of students in US Public Schools had US History scores of 3 or higher.

Figure 14
1999-2000 AP US History Percentage of Scores 3 or Higher



AP BIOLOGY

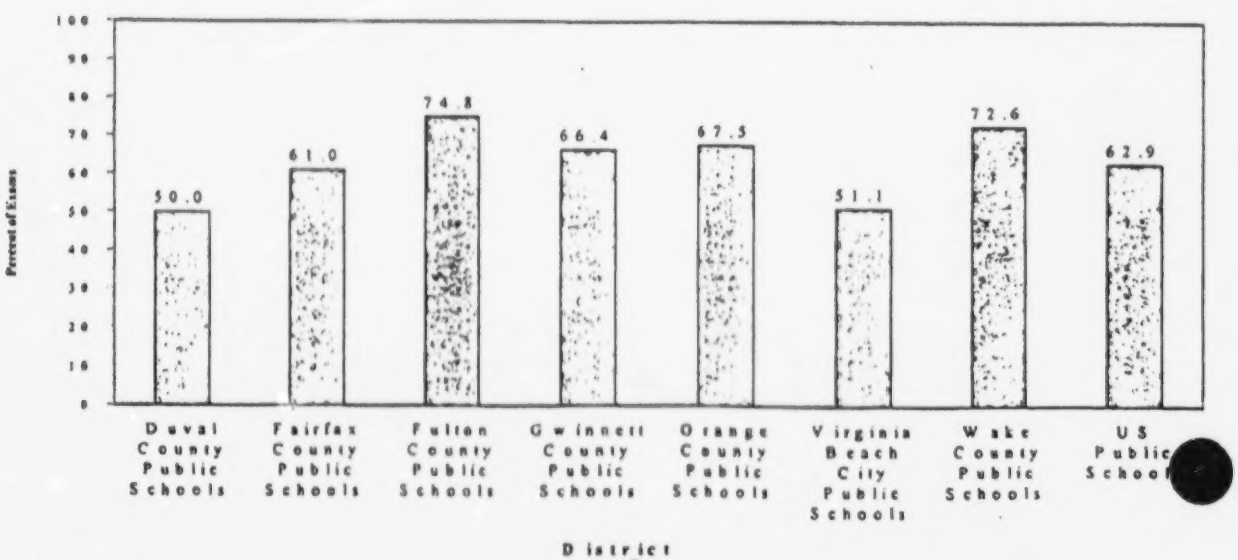
During the 1997-98 school year, the percent of students scoring 3 or higher in AP Biology ranged from 46.7% (Duval) to 82.3% (Fulton). During the 1998-99 school year, the percent scoring 3 or higher ranged from 31.9% (Gwinnett) to 75.1% (Wake).

Figure 15
AP Biology (Percent)

Year	1997-1998		1998-1999		1999-2000	
AP Biology **District**	**Num. of Exams**	**Percent Scoring 3 and Above**	**Num. of Exams**	**Percent Scoring 3 and Above**	**Num. of Exams**	**Percent Scoring 3 and Above**
Duval County Public Schools	244	46.7	258	52.7	196	50.0
Fairfax County Public Schools	553	74.9	922	58.2	953	61.0
Fulton County Public Schools	113	82.3	130	74.6	119	74.8
Gwinnett County Public Schools	161	63.4	216	31.9	214	66.4
Orange County Public Schools	82	58.5	101	62.4	83	67.5
Virginia Beach City Public Schools	455	47.5	344	48.8	305	51.1
Wake County Public Schools	185	81.6	209	75.1	248	72.6

For the 1999-2000 school year, scores of 3 or higher ranged from 50% (Duval) to 74.8% (Fulton). Approximately 62.9% of students in US Public Schools had scores 3 or higher in AP Biology.

Figure 16
1999-2000 AP Biology Percentage of Scores 3 or Higher



AP CHEMISTRY

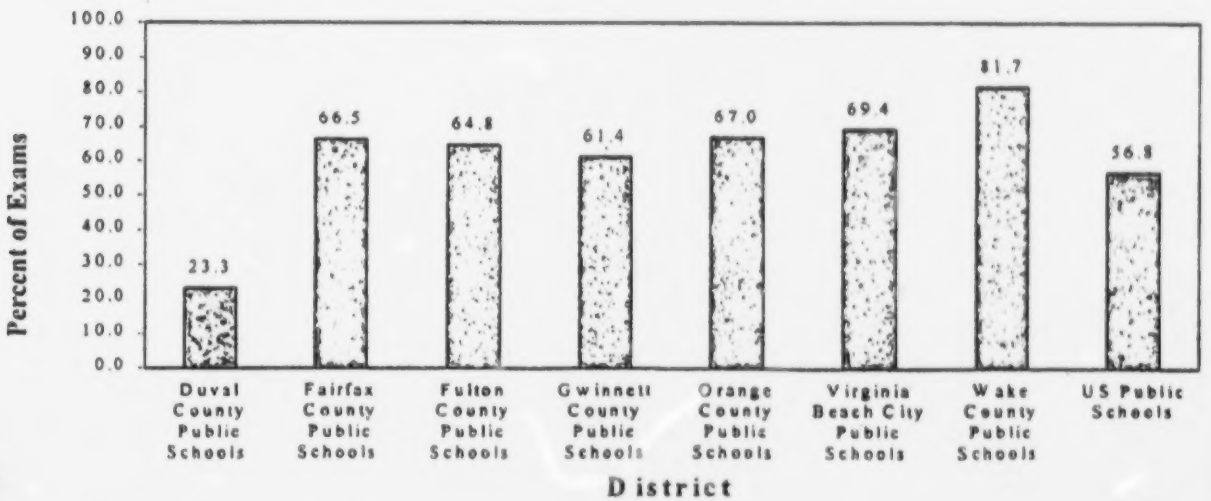
During the 1997-1998 school year, students with scores of 3 or above ranged from 46.8% (Duval) to 81% (Wake). During 1998-99, the range was 29% (Gwinnett) to 75.6 (Wake).

Figure 17
AP Chemistry (Percent)

Year	1997-1998		1998-1999		1999-2000	
AP Chemistry District	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above
Duval County Public Schools	154	46.8	123	51.2	159	23.3
Fairfax County Public Schools	408	74.0	494	59.3	484	66.5
Fulton County Public Schools	105	50.5	156	71.2	165	64.8
Gwinnett County Public Schools	119	67.2	155	29.0	132	61.4
Orange County Public Schools	81	71.6	96	69.8	100	67.0
Virginia Beach City Public Schools	213	50.7	163	56.4	216	69.4
Wake County Public Schools	147	81.0	127	75.6	197	81.7

During the 1999-2000 school year, AP Chemistry scores of 3 and higher ranged from 23.3% (Duval) to 81.7 (Wake). Approximately 56.8% of students in US Public Schools had scores of 3 or higher in AP Chemistry.

Figure 18
1999-2000 AP Chemistry Percentage of Scores 3 or Higher



AP ENGLISH LANGUAGE

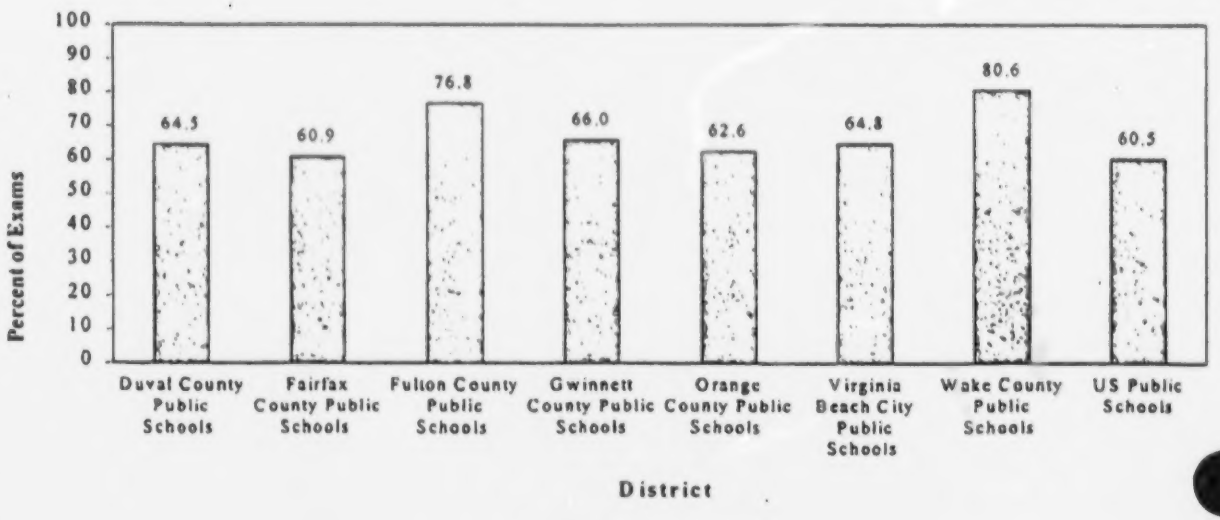
During the 1997-98 school year, the percent of students scoring 3 and higher ranged from 68.7 (Orange) to 83.5 (Fairfax). During 1998-99, the percent scoring 3 and higher ranged from 36.1 (Gwinnett) to 85.4 (Fulton).

Figure 19
AP English Language (Percent)

Year	1997-98		1998-99		1999-2000	
AP English Language District	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above
Duval County Public Schools	385	71.9	504	66.7	490	64.5
Fairfax County Public Schools	279	83.5	437	68.2	481	60.9
Fulton County Public Schools	254	78.3	260	85.4	315	76.8
Gwinnett County Public Schools	23	69.6	36	36.1	100	66.0
Orange County Public Schools	182	68.7	245	58.8	227	62.6
Virginia Beach City Public Schools	73	72.6	208	66.8	321	64.8
Wake County Public Schools	531	77.6	545	78.7	651	80.6

The percent of students in US Public Schools scoring 3 or higher in English literature was 60.5%. All seven EBN districts scored higher than the national average with scores ranging from 60.9 (Fairfax) to 80.6 (Wake).

Figure 20
1999-2000 AP English Language Percentage of Scores 3 or Higher



AP ENGLISH LITERATURE

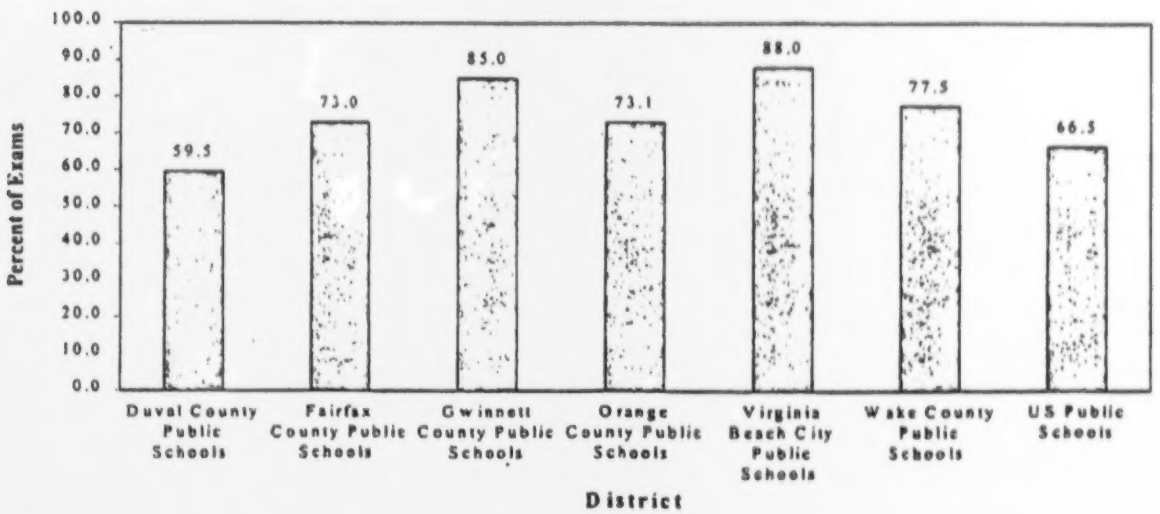
During the 1997-98 school year, the percent of students scoring 3 or above in English Literature and Composition ranged from 62.2% (Duval) to 83.5% (Virginia Beach). During the 1998-99 school year, the percent scoring 3 or above ranged from 41.1 (Gwinnett) to 83.5 (Virginia Beach).

Figure 21
AP English Literature (Percent)

Year	1997-1998		1998-1999		1999-2000	
AP English Literature & Composition District	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above
Duval County Public Schools	582	62.2	621	59.3	691	59.5
Fairfax County Public Schools	1358	81.6	1850	75.6	2043	73.0
Fulton County Public Schools	Not available					
Gwinnett County Public Schools	363	82.9	397	41.1	454	85.0
Orange County Public Schools	295	78.3	373	73.5	342	73.1
Virginia Beach City Public Schools	212	83.5	236	83.5	200	88.0
Wake County Public Schools	373	81.2	350	78.9	364	77.5

The percent of US Public School students scoring 3 or higher in English Literature and Composition was 66.5%. In the EBN districts, the percentage of students scoring 3 or higher ranged from 59.5% (Duval) to 88.0 (Virginia Beach) during the 1999-2000 school year.

Figure 22
1999-2000 AP English Literature and Composition Percentage of Scores 3 or Higher



AP FOREIGN LANGUAGE

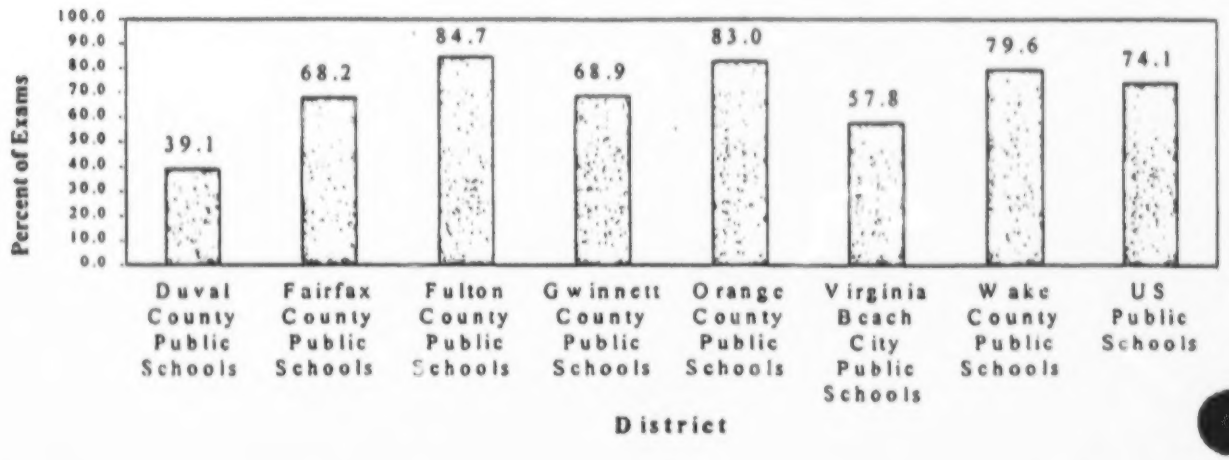
For the purposes of this report, AP Foreign Language has been combined. It includes (1) French: Language (2) French: Literature (3) German: Language (4) Latin: Verbal (5) Latin: Literature (6) Spanish: Language and (7) Spanish Literature. For the 1997-98 school year, the percent of students scoring 3 or higher ranged from 51.7% (Duval) to 88.1% (Orange); in 1998-99 percents ranged from 30.8% (Gwinnett) to 84.1% (Orange).

Figure 23
AP Foreign Language (Percent)

Year	1997-1998		1998-1999		1999-2000	
AP Foreign Language (combined) **District**	**Num. of Exams**	**Percent Scoring 3 and Above**	**Num. of Exams**	**Percent Scoring 3 and Above**	**Num. of Exams**	**Percent Scoring 3 and Above**
Duval County Public Schools	180	51.7	241	41.9	248	39.1
Fairfax County Public Schools	912	76.3	1495	64.0	1354	68.2
Fulton County Public Schools	107	72.0	138	82.6	131	84.7
Gwinnett County Public Schools	71	67.6	78	30.8	90	68.9
Orange County Public Schools	270	88.1	283	84.1	247	83.0
Virginia Beach City Public Schools	213	68.5	254	77.2	289	57.8
Wake County Public Schools	170	71.8	148	72.3	162	79.6

During the 1999-00 school year, the percent of students scoring 3 or higher in foreign language ranged from 39.1% (Duval) to 84.7% (Fulton). Approximately 74.1% of students in US public schools scored 3 or higher in foreign language.

Figure 24
1999-2000 AP Foreign Language Percentage of Scores 3 or Higher



AP CALCULUS (AB & BC COMBINED)

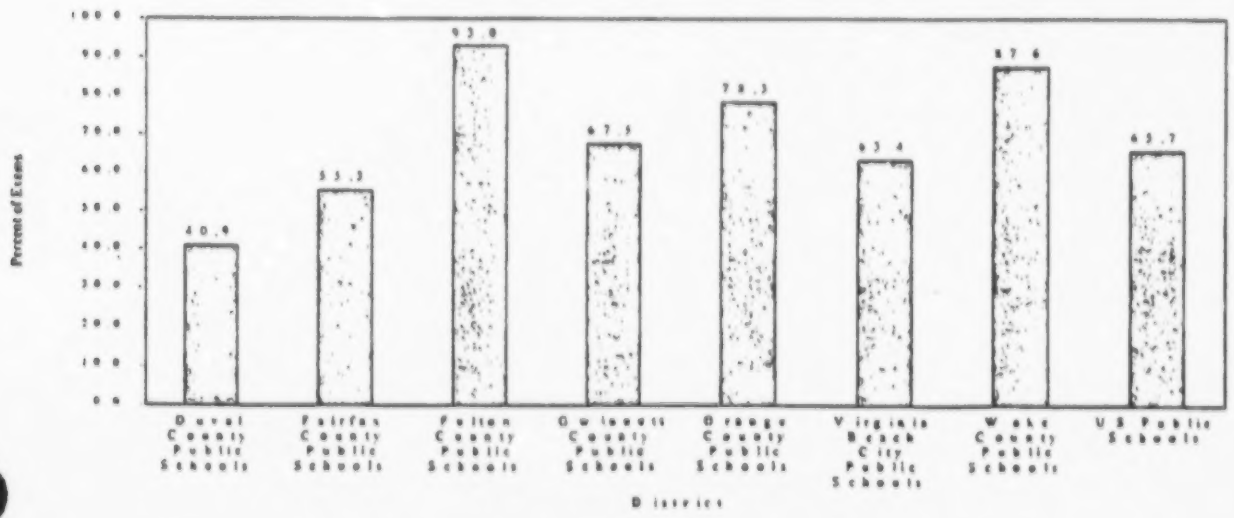
For the purposes of this report, AP Calculus AB and BC have been combined. During the 1997-98 school year, the percent of students scoring 3 or higher ranged from 19.9% (Gwinnett) to 87.5% (Wake); in 1998-99, scores ranged from 29.3% (Gwinnett) to 85.5% (Orange).

Figure 25
AP Calculus (Percent)

Year	1997-1998		1998-99		1999-2000	
AP Calculus (AB & BC combined) District	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above
Duval County Public Schools	328	54.9	320	51.9	494	40.9
Fairfax County Public Schools	1528	66.8	2662	51.4	2704	55.3
Fulton County Public Schools	268	73.9	263	84.4	270	93.0
Gwinnett County Public Schools	351	19.9	498	29.3	600	67.5
Orange County Public Schools	298	81.9	330	85.5	318	78.3
Virginia Beach City Public Schools	412	50.5	447	67.6	402	63.4
Wake County Public Schools	520	87.5	501	83.6	526	87.6

Approximately 65.7% of students in US public schools scored 3 or higher in Calculus during the 1999-00 school year. For the selected EBN districts, percents ranged from 40.9% (Duval) to 93% (Fulton).

Figure 26
1999-2000 AP Calculus (AB & BC) Percentage of Scores 3 or Higher



AP PHYSICS (B &C COMBINED)

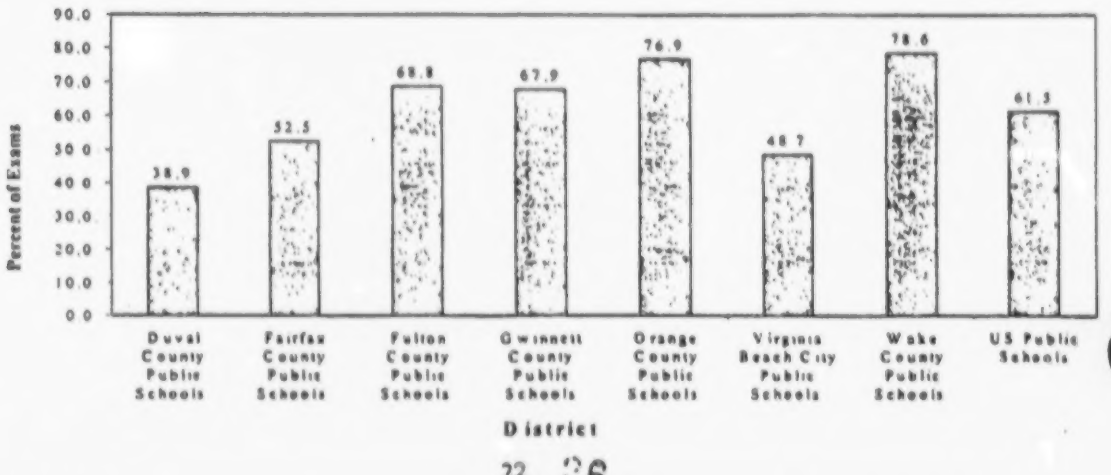
For the purposes of this report, AP Physics B, AP Physics C: Mechanics and AP Physics C: Electricity and Magnetism were combined. During the 1997-98 school year, the percent of students scoring 3 or higher on AP Physics ranged from 58.0% (Duval) to 87.3 (Gwinnett); percents ranged from 23.9 (Gwinnett) to 69.4 (Fulton) during the 1998-99 school year.

Figure 27
AP Physics (Percent)

Year	1997-1998		19998-1999		1999-2000	
AP Physics (B & C combined) District	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above
Duval County Public Schools	100	58.0	79	64.6	90	38.9
Fairfax County Public Schools	364	71.4	632	54.9	802	52.5
Fulton County Public Schools	158	63.9	186	69.4	321	68.8
Gwinnett County Public Schools	71	87.3	92	23.9	109	67.9
Orange County Public Schools	152	59.2	126	65.1	147	76.9
Virginia Beach City Public Schools	104	73.1	166	57.2	189	48.7
Wake County Public Schools	230	66.1	249	84.3	220	78.6

During the 1999-2000 school year, 61.5% of students in US public schools had scores 3 or higher in AP Physics. For the selected EBN districts, percents ranged from 38.9% (Duval) to 78.6% (Wake).

Figure 28
1999-2000 AP Physics (B & C) Percentage of Scores 3 or Higher



AP STATISTICS

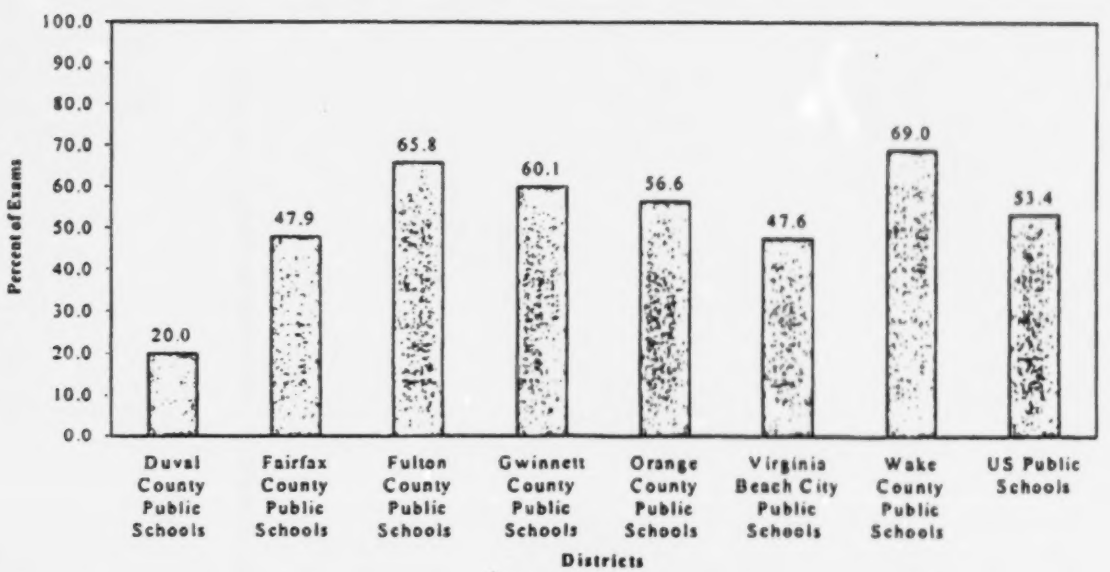
During the 1997-98 school year, the percent of students scoring 3 or higher on AP Statistics ranged from 20% (Duval) to 86.3 (Fairfax). The percentages of students scoring 3 or higher ranged from 0.0 (Duval) to (88.8) Wake for the 1998-99 school year.

Figure 29
AP Statistics (Percent)

Year	1997-1998		1998-1999		1999-2000	
AP Statistics District	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above	Num. of Exams	Percent Scoring 3 and Above
Duval County Public Schools	20	20.0	22	0.0	95	20.0
Fairfax County Public Schools	124	86.3	342	49.1	553	47.9
Fulton County Public Schools	116	52.6	109	81.7	199	65.8
Gwinnett County Public Schools	230	50.9	208	27.4	293	60.1
Orange County Public Schools	84	50.0	58	67.2	106	56.6
Virginia Beach City Public Schools	116	52.6	151	41.7	191	47.6
Wake County Public Schools	203	85.7	286	88.8	290	69.0

Approximately 53.4% of students in US public schools scored 3 or higher on the AP Statistics exam during the 1999-2000 school year. For selected EBN districts, percentages ranged from 20% (Duval) to 69% (Wake).

Figure 30
1999-2000 AP Statistics Percentage of Scores 3 or Higher



RECOMMENDATIONS

This report provides one example of one type of analysis that may be completed, using data from the EBN online database. This analysis would prove more useful if:

- Data were available for each EBN district for several years,
- Participation rates for each exam were available,
- Participation rates and percentages of scores 3 or higher were analyzed for correlation. For example, do percentages of high scores decrease as participation rates increase?
- Can actual systems attain both high participation and performance? How?

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ADVANCED PLACEMENT EXAMS 1999-2000: RESULTS FOR WCPSS AND EBN DISTRICTS

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